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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,269	08/05/2003	Ming Gao Yao	12553/73	7073

7590 11/14/2006

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EXAMINER

BLOUIN, MARK S

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/634,269	Applicant(s) YAO ET AL.	
	Examiner Mark Blouin	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 10-13, and 19-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Detjens et al (US 6704163).

3. Regarding Claims 1 and 10, Detjens et al shows (Figs. 1-4) a system for a magnetic head arm assembly (HAA) comprising: a first component (20) having a first cavity (22) to be coupled to an arm portion (14) having an arm cavity (32) via a pin element (16) welded between said first component and said arm portion, wherein said first component is selected from the group consisting of a head suspension portion and a flex cable portion (See Examiner's Drawing).

4. Regarding Claims 2 and 11, Detjens et al shows (Figs. 1-4) the system, wherein said head suspension portion is a hard disk drive head gimbal assembly (HGA) (Col 1, line 46 - See Examiner's Drawing).

5. Regarding Claims 3 and 12, Detjens et al shows (Figs. 1-4) the system, wherein said flex cable portion (See Examiner's Drawing) is a hard disk drive (Col 1, lines 16-20) flex cable.

6. Regarding Claims 4 and 13, Detjens et al shows (Figs. 1-4) the system, wherein said arm (14) portion is a hard disk drive (Col 1, lines 16-20) arm.

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7. Regarding Claims 19 and 27, Detjens et al shows (Figs. 1-4) a system for a magnetic head arm assembly (HAA) comprising: a first component (14) to be coupled to a second component (20) via welding said first component to said second component, wherein said first component is selected from the group consisting of a head suspension portion, a flex cable portion, and a flex circuit portion, said second component is an arm portion (See Examiner's Drawing).
8. Regarding Claims 20 and 28, Detjens et al shows (Figs. 1-4) the system, wherein said first component (14) is a hard disk drive slider frame (a frame supporting the slider) and said second component is selected from a group consisting of a hard disk drive head gimbal assembly (HGA), and a hard disk drive slider (See Examiner's Drawing).
9. Regarding Claims 21 and 29, Detjens et al shows (Figs. 1-4) the system of claim, wherein said head suspension portion is a hard disk drive head gimbal assembly (HGA) (See Examiner's Drawing).
10. Regarding Claims 22-24, and 30, Detjens et al shows (Figs. 1-4) the system, wherein said flex cable portion is a hard disk drive flex cable, said flex circuit portion is a hard disk drive bridge flex circuit (BFC), and said arm portion is a hard disk drive arm (See Examiner's Drawing).
11. Regarding Claim 25,26,31, and 32, Detjens et al shows (Figs. 1-4) wherein said first component is coupled to said second component via a type of welding selected from the group consisting of ultrasonic welding, solder bump welding, and laser welding (Col 6, lines 43-49).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 5-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detjens et al (US 6704163) in view of Cubero Pitel (US 6,160,239).

14. Regarding Claims 5,6,9,14,15, and 18, Detjens et al shows all the features described, *supra*, but does not show a copper welding pin interference fitted into a first cavity and into the arm cavity to couple the first component to the arm portion.

Pitel shows (Figs. 4-6) a copper welding pin (21 – Col 1, line 53) interference fitted into a first cavity and into the arm cavity to couple the first component to the arm portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to couple the first component to the arm portion of Detjens et al using the copper welding pin as taught by Cubero Pitel. The rationale is as follows: One of ordinary skill in the art at the time the invention was made would have been motivated to couple the first component to the arm portion of Detjens et al using the copper welding pin as taught by Cubero Pitel in order to secure two substrates together with art recognized equivalent methods (soldering welding, application of heat).

15. Regarding Claims 7,8,16, and 17, Detjens et al shows the at he holes and recessions can be of circular and rectangular shape (Col 4, lines 27-31).

Response to Arguments

16. Applicant's arguments filed October 19, 2006 have been fully considered but they are not persuasive.

Applicant asserts on page 8 : Applicants disagree with the Office Action's assertion that element 14 is the same as the "arm portion" and element 20 is the same as the "first component" as described in embodiments of the present application.

The Examiner maintains that under the broadest reasonable interpretation of the claim 1 language that element 14 is clearly an "arm portion" and element 20 is clearly a "first component" to be "**coupled**" to the arm portion.

Applicant asserts on page 8 : Figure 1 clearly shows the cited "tower[s]" 16 as extension protruding from cited element 14. They are not inserted through element 14.

The Examiner maintains that claim 1 language merely states that "*...the a first component having a first cavity to be **coupled** to an arm portion having an arm cavity via a pin element...*". The key word is "**coupled**". There is no language in claim 1 stating that the pin is inserted **through** an element.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

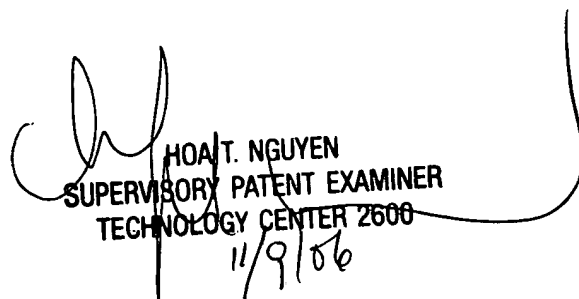
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is 571-272-7583. The examiner can normally be reached on M-F from 6:00 to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mark Blouin
Patent Examiner
Art Unit 2627
November 1, 2006



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11/9/06